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Q&A With the Chairman

Dingell Sounds Off on Indirect Costs, Scientific Fraud

Fearing and castigated for his scorching inquiries into academic misdeeds, Rep. John D. Dingell (D-Mich.) now stands vindicated in his pursuit of both the "Baltimore" case and brazen padding by universities of bills for indirect costs of federally supported research. Nobelist David Baltimore has dropped his defense of a co-author's work deemed fraudulent by NIH investigators, and, two years after assailing Dingell as an enemy of science, Baltimore has endorsed "governmental oversight of federally funded projects." Meanwhile, with federal auditors on the way, many universities are hurriedly "scrubbing" their indirect-cost accounts and withdrawing charges. Dingell, Chairman of the Energy and Commerce Committee and its Subcommittee on Oversight and Investigations, spoke with SGR Editor Greenberg on May 6. Following is the text, transcribed and edited by SGR.

SGR. It's being said, okay, you caught some chiseling on indirect costs, but the real problem is that universities are underfinanced, and now, with the withdrawals of charges and indirect-cost rates being reduced, they're going to be worse off.

Dingell. Do you believe that?

SGR. Harvard, Stanford, and others will get less money from Washington. We know that.

Dingell. Oh, to buy antique French commodes, George II vases, to pay for wedding receptions, rock star tickets, operas, to pay for retreats for the Board of Trustees to Lake Tahoe, to pay for receptions for the President, to pay for fancy residences for the Presidents, for the Provosts, and other officials in the university. I have to say that if that is lost, I will control my distress greatly and easily.

SGR. All the items you've enumerated are outrageous. But they make up a very small proportion of the indirect-cost receipts of a major university.

Dingell. Our hearings do not show that these events are large or small. The hearings have not yet shown how much it is that Stanford must return. They have not yet shown how much, in terms of frivolous, outrageous, scandalous, illegal, and unconscionable billings, Stanford made, or what percentage of the overhead was, in fact, wrong. We will not know the answer to precise numbers until we have concluded the audit at Stanford, and that has not yet been done. So, you do not know, and I do not know, and Stanford is not telling us. HHS [Department of Health and Human Services] does not know. DCAA [Defense Contract Audit Agency] does not

know. The GAO [General Accounting Office] does not yet know.

I have never held that indirect costs were not a proper element of a grant, and I do not so state now. I make to you the statement that there is a level of indirect cost which is proper. And I intend to see to it that level of indirect costs is properly paid. You indicated that they engaged in the kind of unconscionable practices which we have exposed because they were underfunded. And that the colleges and universities are rather like the impoverished citizen who was impelled to steal a loaf of bread to feed his wife and

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In Brief

Changes Coming at the Academy: Samuel O. Thier, President of the Institute of Medicine, health-policy arm of the National Academy of Sciences, has accepted the Presidency of Brandeis University and is due to take office there around Oct. 1. NAS President Frank Press will complete his second six-year term in June 1993, and, under a two-term limit, is ineligible for another term. The chief of the third part of the NAS family, Robert M. White, President of the National Academy of Engineering, was recently elected to a third four-year term.

Mission Implausible: Energy Secretary Watkins has created a Task Force on Civilian Radioactive Waste Management, a calamity area in DOE affairs. Among its assignments: To "examine what is meant by 'public trust and confidence' and describe the conditions that are important for ensuring it." Watkins said the phrase "is frequently used, but its meaning is rarely articulated with precision. Consequently, misunderstandings among parties with an interest in those ends may arise, and accusations of bad faith may be leveled..." Some one ought to tell the Admiral that trust and confidence are like love: you can't buy it, fake it or hide it.

In office as Director of NIH for one month, Bernadine Healy has announced her first personnel change, stating in a May 9 staff memo that J. Edward Rall "has elected to relinquish his responsibilities" as head of the Office of Intramural Research, the top post for research on the Bethesda, Md., campus. Healy added that she and Rall "are discussing his continuing function as a senior science adviser" in her office. Rall joined NIH in 1955 and was appointed to the intramural directorship in 1983.

... Dingell: Universities, Not Me, Subverting US Aid

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family. First of all, there's no showing on the record that case is so. Second, the particular grants and the overhead which were made available to Stanford and the other colleges and universities were not part of general support. If you want to talk about general support for education, colleges, and universities, you'll find I have as good a record as anybody in this place on this issue. I have supported that kind of program enthusiastically. What we are discussing here is not a program which is being subverted by me. What we are discussing is a subversion of a program by the colleges and universities.

SGR. Last year Stanford received about \$80 million in indirect-cost payments. Are you suggesting that some substantial portion of that amount was spent on frivolous purposes?

Dingell. I have not made any statement that any percentage went for frivolous purposes, or for criminal purposes, or for illegal purposes. I'm not even making a statement as we sit here that there are matters that should be looked into by the US Attorney. Remember, there were certifications made by Stanford and others that these monies were collected and expended and vouchered in full accord with law. They signed certifications. False certification of that is, of course, a criminal act. What I am saying to you is that we expect as the audit goes forward that we will have much better information than we have right now. But we have provided very, very good anecdotal information establishing clear wrongdoing and clear misuse of public monies.

SGR. Of a criminal nature?

Dingell. I haven't said that yet.

SGR. No, but I'm asking you.

Dingell. It is a possibility that I do not exclude. And I think it's a possibility that you would be hard put to exclude. Every college and university is now reducing its [indirect-cost] rate significantly. One of the questions we're going to ask is, what is a proper rate? The figure we're hearing is that the cut that Stanford has undergone [in its indirect-cost rate, reduced from 70 to 55.5 percent] is going to amount to about \$30 million. We're not satisfied with that. And we're not satisfied with what the situation has been over the years. Now, your argument that, because colleges and universities are so impoverished that they had to do this, let me remind you that Stanford was actually charging the federal government for depreciation on what is supposedly a world-class—this is their word, not mine—world-class, quote unquote, shopping center. Now, I guess I would have to feel that their poverty was not of such a grinding and abysmal character as to compel Stanford to collect monies improperly or make false certifications.

SGR. Do you accept [Stanford President] Kennedy's testimony that he was not aware of these activities?

Dingell. I would respond by saying this: Don Kennedy is the President of the institution. One can logically expect that

the President knows what is going on. One must logically assume that the President *does* know what is going on. Certainly, the Board of Trustees are not in error in assuming that the President knows what the hell is going on in Stanford. And I am not illogical in assuming that the Board of Trustees makes that assumption. Nor I am, I think, illogical in assuming that he is accountable for this. So, I am driven to three choices: One, he is incompetent; two, he is corrupt, or, possibly, three, he is both. And I am looking to see which of these three assumptions I am going to embrace when we have concluded our investigation.

SGR. Kennedy and his Chief Financial Officer said they're running a \$1.2-billion-a-year enterprise, with three million financial transactions. Legally, we're responsible, they said. On the other hand, like the captain of a battleship, you can't know everything that's going on below decks.

Dingell. And when he runs that battleship aground, or when he blows up the turret, he's court-martialed.

SGR. Are the abuses on indirect costs isolated or is there a systemic problem?

Dingell. It's pretty hard to say that these are isolated cases when we have now had five or maybe even eight major universities coming forward with as much as \$500,000 to \$700,000, \$800,000 that they say were overcharges. Some of them, before we have even gotten around to auditing them. So, in fairness, it has to be observed that these are probably not isolated, but are part of a general, overall practice. And I will observe to you that the monies returned are usually on the basis of the last year's billings, as opposed to billings over the 10 years which are a matter of interest to the Subcommittee.

SGR. Do you expect refunds from a decade back?

Dingell. I think it's fair to say they will be expected to pay back. The question is whether they will or whether the law will enforce that. Clearly, improper billings, whether it's by defense contractors or welfare mothers or Social Security recipients or anybody else, should be returned to the taxpayers. That's not their money. That's the taxpayers' money.

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... Chairman Says Abuses Akin to Defense Scandals

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money. I can't tell you they will. There's a statute of limitations and there are other legal questions, and all those issues will have to be addressed in the proper fashion.

SGR. *How did this unwholesome situation come about?*

Dingell. My assumption would be that, because the colleges and universities became aware of the fact that there was no auditing, and that modest excesses in one year were not followed up, that they assumed that sort of behavior was then at least tacitly approved. And they went on to further expansion of the purposes of their billings. If you look, you will find that billing for overhead or indirect charges has risen from something I'm told was at a 20-percent level to as high as 70, 80, and 100 percent over a period of 10 or 15 years. And what I'm assuming here on the basis of the information we have is that they just found that the attitudes of the government seemed to be, "Fellows, here's money. Have a good time. If you need some more, come back and talk to us." And that they accepted that as a very gracious offer on the part of the government, and proceeded to let the good times roll. We found many of the overhead charge practices to be strongly reminiscent of practices which we had seen utilized by defense contractors.

SGR. *Will exposure suffice, or are legislative changes in order?*

Dingell. We have not proceeded to the point where I'm able to tell you what will be the course that will be taken by the Subcommittee or what the Subcommittee or I will recommend to the House. I think before we conclude this matter, we will conclude the audits, we will have additional hearings, at least one of which will involve the presence not only of the heads of the National Institutes of Health, but the heads of the Defense organizations which have made grants, and probably the Secretary of Health and Human Services, and possibly officers of the Office of Management and Budget. There are a lot of questions which have to be answered, not all of which are ready for asking.

We will hear from the Defense Contract Audit Agency and also from the GAO—what their suggestions should be. There have been some halting steps taken both by the Defense Department and by the Department of Health and Human Services. But we are not greatly moved to believe that this is all that should be done or even that it is any of what should be done.

SGR. *In what way is their response inadequate?*

Dingell. I'm not prepared to say that they are adequate or inadequate. I'd just say we're not moved to say so at this time. The reason clearly is that we want to have a better appreciation of what all has been going on, so we can make a more enlightened judgment as to what should be done. Although, quite frankly, the response followed so quickly upon the hearings of the Subcommittee that I must assume that it was not a response that was deeply and carefully thought out, or even one which is bottomed on real determi-

nation to improve the situation, which quite frankly stunk.

SGR. *Now the Baltimore case. He has dropped to his knees and apologized, though perhaps not as much as some think he should. The scientific community feels chastised. What's left to be done in this case?*

Dingell. We'll be looking to see whether there is further business that the Subcommittee has to conduct on these matters. I'm referring to Baltimore, but I'm also referring to other possible matters in the question of scientific misconduct. Now, part of that is, can and should the federal government rely on science to purge its own house, to police its own members? I personally believe this is a responsibility of science. The peer-review system seems to work splendidly where you are dealing with questions of scientific research which is properly done. It does not seem to work very well in instances where scientific research is not done or where the results are falsified, or matters of that kind.

I've been accused of running a replay on the trials of Galileo and the difficulties of Copernicus, but I would remind you that the charge was never made there that they had performed improper experiments. The charge was that somebody disagreed with their conclusions. We have never said we disagreed with the conclusions in the case of Baltimore and Imanishi-Kari [Baltimore's co-author in the disputed paper]. The only thing we ever said was, we wanted to know if, in fact, the work was really done as reported. That issue has happily been resolved in a way that tends to confirm our concerns and the validity of them.

SGR. *NIH and other agencies say the first line of defense is the institution where misconduct occurs.*

Dingell. That's true and I concur in that. I think basically it's the correct attitude. And I do think that it's also the responsibility of science to clean its own house and discipline its own people, and see to it that the work is properly done. And I don't mean that I would agree with the result, but just to see to it that you don't see the kind of situation that we have had to expose in the case of Imanishi-Kari. I would qualify that only by saying that where the federal government is paying for something, it ought to get what it's paying for. In other words, if somebody says that they're performing scientific research, reporting it as scientific research, it, in fact, should have occurred the way they said it did.

SGR. *Do you regard the Baltimore case as an isolated incident or as indication of a broader problem?*

Dingell. I don't know the answer to that. We have one case and my college logic class taught me that you do not reason from a single particular to a general.

SGR. *You've said that NIH has not performed adequately in dealing with misconduct.*

Dingell. I will go further than that. I will say that the scientific researchers here, save O'Toole ["whistle-blower" in the Baltimore case], did not perform properly. Those who reviewed the case in a number of instances did not perform

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... Says Aim Is to Protect Funds Intended for Science

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properly. The colleges and universities [MIT and Tufts] which reviewed the matter in the early stages did not do it properly. The National Institutes of Health did not do it properly. It got so totally turned around in the process that the person who was prosecuted was Margot O'Toole. Not Imanishi-Kari, not Baltimore. Because, effectively, O'Toole was destroyed professionally. What was she doing? Answering a telephone in a relative's business, was she not?

SGR. *I understand your Subcommittee is planning hearings, possibly in June or July.*

Dingell. We will possibly have some hearings to discuss what it is that NIH proposes to do and [HHS] Secretary Sullivan proposes to do as a result of the revelations in the case. In other words, what will follow forward with NIH, with regard to assuring adequate peer review, to assure protection of whistle-blowers, to see to it that the public monies are properly expended. We may even hear from the US Attorney. I don't know. These matters are still being decided. I think what we will do will be to address the policy questions: How should these matters be addressed on a responsible basis, both with regard to NIH, HHS? But probably also from the standpoint of the grantees. And we probably will have some requests for colleges and universities about what they propose to do with regard to reviewing work of this kind. Perhaps maybe inquire of some of the scientific organizations and associations about what it is they propose to do to clean up their house. It's best that they do this, not that we do it.

SGR. *Are there any other scientific or academic matters that you're planning to investigate?*

Dingell. I can't think of any. We've got a lot of other cats to skin. And I think it's time that we move on. What we will probably do with regard to the O'Toole-Imanishi-Kari-Baltimore matter is let's see what happens. With regard to the colleges and universities and the mis-expenditures of monies, we're going to start asking policy questions. This doesn't mean we aren't going to have a few more hearings to bring colleges and universities in to explain some of their generosity with public funds. I think we're going to have to establish some very clear rules on the way the monies are granted and to establish a pattern and a practice for auditing. Remember, one of the reasons that the B-2 got to be such a damnable mess was that they never audited the damn thing. Same thing is true with most defense contracts. And guess what? Same practice of not auditing went on without interruption in regard to indirect costs. We will address the policy questions which remain: How much is a proper amount for overhead? What are you going to do about auditing? What are you going to do about blacklisting a college or university if they are improper in their behavior? I'm not an advocate necessarily of that position, but I would think that in an extreme case that may be the only recourse that you have.

I think in that I can make you a fair statement that we are

Baltimore's Reply Disputed

Margot O'Toole, the "whistle-blower" in the Baltimore case, has sharply disputed the accuracy of a contrite statement Baltimore issued last month in response to NIH findings of fraud and fabrication by Thereza Imanishi-Kari, his co-author in a 1986 paper in *Cell*. Baltimore stated that he was unaware of the fabrications until they were established last year by forensic tests of Imanishi-Kari's lab records. O'Toole, stopping just short of calling him a liar, states that in 1986, she was present with Baltimore when Imanishi-Kari "candidly admitted" fabricating the data.

Meanwhile, investigators for the Dingell Subcommittee, seeking financial records from the MIT-related Whitehead Institute, which Baltimore formerly headed, have been told that Baltimore removed the records when he left to become President of Rockefeller University last year. Aides say a subpoena will be issued if the records are not produced.

appearing in this matter as *defenders* of scientific research, as opposed to being enemies of scientific research, even though some of the people in the early stages of this inquiry with regard to Stanford tried to have us presented as some sort of Attila the Hun raging through the temples of academia to destroy scientific research. So we are, in fact, trying to see to it that the scarce monies will no longer be dissipated on frivolous expenditures.

SGR. *Your colleagues in the House must be hearing from their university presidents about indirect costs.*

Dingell. They were indeed and they were indeed with regard to the Baltimore matter. We were roundly denounced. It was rather adroitly done—well-financed and vigorous efforts by the scientific community and by the colleges and universities. I gather that there's now so much embarrassment and humiliation over the events that we have shown to be the facts and to be the real world, that is generally subsiding. And that colleges and universities are spending their time much more productively, looking to see how much money they have improperly billed the federal government for instead of denouncing us for making our inquiries.

SGR. *Do you plan another meeting with Dr. Baltimore?*

Dingell. No, not unless he solicits it.

SGR. *Will he be asked to testify at the hearing?*

Dingell. I don't think so. I don't see any great benefit in that. I may change that view after we look to see what more remains to be done. But at this moment, there seems to be no significant benefit from that. Dr. Baltimore has said that he was in error, and we're content to let matters lie there. I'm not interested in rubbing his nose in it or causing him any additional embarrassment. Been nicer had he done it earlier.

Hearing Assails SSC's Empty Promises, Rising Costs

The Department of Energy's (DOE) hardsell campaign for the Superconducting Super Collider (SSC) was put under a hostile Congressional spotlight last week, documenting fantasy pricing and empty assurances that foreign friends would help bear the runaway costs.

The hearing was a rout for the lineup of SSC officials as they grappled with conflicts between DOE's past and present assurances and the difficulty of explaining the SSC's wily arithmetic. But the colossal project has disbursed hundreds of friend-winning contracts throughout the country. With big SSC spending just beginning to come on line, \$534 million requested for next year, toward an ultimate price now estimated at \$8.2 billion, the SSC possesses a hefty and hopeful constituency. At this point, the chances of derailment are nil.

Nonetheless, the hearing illuminated the hustle and hypocrisy that are often present in pushing big science projects through the federal system. From the earliest days of the SSC campaign down to the present, DOE and other Administration officials have sought to ease the fiscal shock with assurances of substantial foreign cost-sharing. The promises started in 1987, when then-DOE Secretary John S. Herrington told a press conference that "I wouldn't be surprised if we could get anywhere from a quarter to 50 percent of this project" paid by other nations.

Assurances of substantial foreign cost-sharing persisted under Reagan and were endorsed by the Bush Administration, which declared a goal of one-third non-federal financing for the project. With Texas, site of the machine, pledging \$1 billion, the foreign tab works out—on the basis of DOE's current estimates—to about \$1.7 billion. The dim likelihood of obtaining that sum was a central topic of the hearing, held May 9 by the Subcommittee on Investigations and Oversight of the House Committee on Science, Space, and Technology.

An October 1990 memo that the Subcommittee obtained from DOE files shows that DOE itself had pretty well written off substantial foreign contributions even as it was telling Congress that promising negotiations were in progress. Titled "SSC Status," the anonymous memo apparently was prepared to bring the SSC staff up to date on international negotiations.

Referring to money-seeking visits by DOE delegations to Asia and Europe, the DOE memo states, "As a result of these efforts, we believe we are unlikely to meet the Administration's goal for non-federal participation (one third of the total project cost) in the foreseeable future."

The memo explains, "The SSC does not have the complete support of the Japanese physics community, and the Japanese government has stated that any decision will take at least a year to make, and will likely require a new budget category and possibly some realignments among their science agencies. The major European countries have indicated that their budgets are already strained to support the

current demands of CERN [European Center for Nuclear Research], and that their primary interest is to assure the long-term health of CERN."

The memo goes on: "Our efforts at securing international cooperation are also affected by other US large science projects, in particular, the space station. We may need the help of the White House in answering such broad policy issues as the long-term reliability of US commitments to large projects and the difference between the federal budget process and those of other countries."

"The US and European [high-energy physics] programs are in a similar position," the memo observes, noting that "Neither has the resources to meet all the demands of the science of high-energy physics." It adds that "as in the US, European governments are facing concerns about 'Big Science' versus 'Little Science.'"

The prosecutorial roles at the hearing were filled by Subcommittee Chairman Howard Wolpe (D-Mich.) and his anti-SSC comrade in arms, Sherwood Boehlert, of New York, the Subcommittee's top Republican. In a barrage of numbers, they traced the SSC's rising cost estimates, from \$5.3 billion in 1988 to a dubious \$8.2 billion—the figure DOE now calls final, after dismissing an \$11.2 billion estimate turned in by its own internal study.

The DOE delegation, led by Garry W. Gibbs, Acting Associate Director of DOE's SSC Office, often writhed under Wolpe's and Boehlert's questioning. Gibbs, for example, said that the \$8.2 billion estimate included only \$40 million for spare parts, rather than the \$110 million recommended by DOE's internal study. Boehlert asked for the basis for that reduction. Gibbs replied that DOE decided \$40 million would suffice.

The hearing was led off by three witnesses from the General Accounting Office who criticized the SSC management for what they described as risky haste in developing and installing magnets for the SSC. Rep. Joe Barton, the Congressman from the SSC site, gently deflated their credibility with a question that revealed that the GAO trio consisted of an accountant, a liberal arts graduate, and a specialist in business and financial management. Asked to state their qualifications, the four-member DOE contingent cited advanced degrees in physics and engineering and management of multi-billion-dollar civil and military construction projects.

The Subcommittee, which is planning more hearings on the SSC, is useful for letting off steam. But it controls no money and has little capacity to undermine or delay the project. Wolpe and Boehlert say they recognize the SSC's scientific value, but are concerned by its bite on scientific resources. They argue that the real issue is priorities, and that the fiscal problems of science will be worsened by the deceptions that underpin financing of the SSC.

They are correct. But meritorious argument counts for little in Congress.—DSG

Scandals Hurting Academic Image, Bromley Warns

Speaking from notes May 7 to one of the periodic gatherings of Washington science-policy apparatchiks and on-lookers convened by George Washington University, White House Science Adviser D. Allan Bromley expostulated with more spice than usual on some issues of the day. Following are excerpts, including a question and a provocative reply on the politically sensitive issue of geographic distribution of federal research funds.

If in the old days, or even a few years ago, you probed members of the academic community about their view of Congress, there was a tendency to mention elements of corruption and crookedness and whatnot. Now the situation has undergone a remarkable change. And if you probe someone in the Congress about what they think about universities, there tends to be a significant discussion of a bunch of crooks in universities. And I must say that some of the recent activities that have gone on—the Baltimore case, the Stanford case. The Stanford folk have managed to do something that a year ago, I would have thought totally impossible. They have removed the image of the \$600 toilet seat completely from the American public mind in one fell swoop.

More and more students are coming back from their freshman year telling their parents not only do they not understand what their freshman instructors are talking about, they don't understand their freshman instructors—period. Because so many universities are now having freshman classes taught by foreign graduate students who, in fact, have considerable difficulty with the language, never mind the subject. Added to that is the very clear perception on the part of a great many parents that it is costing one helluva lot to send their kids to any of the universities that they remember fondly from their younger days.

Universities have been rather enthusiastic members of the conspiracy to have "earmarking" [of Congressional appropriations bills] replace peer review. My office did a brief review of earmarking in the last Congressional series of actions, and we found 427 specific earmarks, totaling \$810 million . . . We also found in that list 67 academic facilities, with total costs of \$276 million . . .

We have lived in the presence of a myth since World War II . . . that the federal government does not support higher education. We all know perfectly well that that's nonsense, because tens if not hundreds of thousands of graduate students have been supported as research assistants and received their graduate education that way. But, as the members of the House and the Senate become more and more sensitive to geographic distribution and to inequities, perceived inequities, in geographic distribution, we have to uncouple the support of higher education from research

support. It's important to realize that over 50 percent of all young people in the United States go to college within 50 miles of where they were born. We have a real responsibility to make high-quality education available across the nation. But providing lousy research does nothing whatever to support good education or economic development.

Let me turn to the mega-projects. . . . In high-energy physics . . . they have over the decades been remarkably successful in sorting out their priorities within the family and laying out a set of priorities that the Administration and the Congress found it possible to follow and support. Now, what is happening is the boundaries of the possible are being pushed just a little. We have, for example, succeeded in requesting . . . \$534 million to begin the construction of the Superconducting Super Collider. We also have requested a start of a \$200-million injector for Fermilab. And the California delegation has now informed us that they are, in fact, about to mount support for a \$200-million B [meson] factory. The New York delegation has decided that if SLAC [Stanford Linear Accelerator] gets one, Cornell should get one, too. And, quite frankly, I don't believe it is possible for us, with the best of intentions, to support all of those projects simultaneously without wrecking the science and technology base, something that we have committed firmly that we're not going to do. And so, we're going to need the help of the elementary particle physics community, in this case, to do what they have done in the past, namely, to sort out their priorities internally, so that we can then work on them and work with them.

Q. Your suggestion of a separation of higher education from support of graduate research would entail a very radical change.

Bromley. The problem really comes down to recognition that there are a great many people in the Congress who take a look at the distribution of federal funding for research and ask the simple question: how come so much of it goes to Massachusetts and to California and so little to my state? And you have to understand that over the years, it has been an act of faith for these individuals to vote for continued strong budgets for science and technology, recognizing that very little of that benefit would go to their constituents . . . They're beginning to ask more and more questions because they're getting these reports . . . about unsatisfactory aspects of modern higher education. Their feeling in many cases is, if we had more of the funds uniformly distributed, perhaps we'd have better education. The thing that we have to do is to make clear that although it is vitally important . . . for good teaching that people have some contact with the frontiers of a field of research, it is not essential that any institution cover the waterfront and it is also not true that having research of poor quality does anything to improve education or for the hope for economic development.

More in Print: Federal vs. Private Pay, Patent Data

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for a study of health-care trends. The first part, *Trends in Health Expenditures by Medicare and the Nation* (80 pp., no charge), was issued in January in photocopy edition, and is still available from CBO.

Order from: Congressional Budget Office, Publications, 2d and D Sts. SW, Washington, DC 20515; tel. 202/226-2809.

National Science Foundation: Annual Report 1990 (54 pp., no charge), in shiny magazine format, a mixed bag of items about NSF, including gee-whiz reports of NSF-funded research, brief bios of senior staff, a photo of George Bush looking into a spectrometer, international comparisons of R&D spending, a smattering of budget information, and an eclectic assemblage of favorable quotations about science. The purpose of this publication and its intended audience are difficult to perceive.

Order from: National Science Foundation, Forms and Publications, 1800 G St. NW, Washington, DC 20550; tel. 202/357-7861.

Mathematical Sciences, Technology, and Economic Competitiveness (114 pp., \$25), from the National Academy of Sciences Board on Mathematical Sciences, another in a series of pleas, little heeded, for more regard for mathematics, this one focused on the role of mathematics in industrial research, design, and production.

Order from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800-624-6242; in Washington, DC: 334-3313.

Federal Pay: Private Sector Salary Differences by Locality (GAO/GGD-91-63FS; 56 pp., no charge), by the General Accounting Office (GAO), a survey of federal and private-sector salaries in 22 metropolitan areas, conducted following passage last year of the Federal Employees Pay Comparability Act. The act mandates eventual replacement of nationally uniform federal salaries with scales linked to local pay levels for specific jobs. GAO reports federal salaries lagged behind private ones in virtually every area and job category, including scientific, engineering, and technical positions. Listed are salaries for various jobs, federal and private, in the 22 areas examined.

Also from GAO: **Technology Transfer: Federal Agencies' Patent Licensing Activities** (GAO/RCED-91-80; 32 pp., no charge), GAO's annual report on patent filings, patents received, and licenses granted by 12 federal agencies and contractor-operated labs, with data tracked from 1981 to 1990. What's striking is that despite pressures and incentives for the \$20-billion-a-year federal research establishment to think commercially, patent activity has remained fairly stable and the yield from licensing, though increasing, is still relatively small. Patent applications for all agencies totaled 1708 in 1981 and 1837 in 1990. In that decade, the

number of licenses granted rose from 173 to 191, while income from licenses rose from \$348,000 to \$9,389,000.

Another from GAO: **Education's Library: Actions Needed to Improve Its Usefulness** (GAO/HRD-91-61; 26pp., no charge), certain to make a bibliophile weep, a report on the derelict condition of the library at the Washington headquarters of the US Department of Education. GAO reports that "about half of its estimated 250,000 volumes are uncataloged and thus, not readily accessible to users, and some 40,000 rare and historical books require binding or other preservation services. Further the Library is underused by Education staff and many researchers are unaware of the facility and its services." The report, dated April 11, 1991, notes that the position of Chief of the Research Library has been filled on an acting basis since 1987.

Order GAO reports from: USGAO, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

Job Changes & Appointments

William A. Wallenmeyer, President of the Southeastern Universities Research Association (SURA) since 1987, has announced that he will retire at the end of June. SURA, a consortium of 40 universities, is the holding company for building and operating the Continuous Electron Beam Accelerator Facility, at Newport News, Va.

Don E. Kash, founding Director of the Science and Public Policy Program at the University of Oklahoma, has been appointed to an endowed chair at the Institute of Public Policy at George Mason University, Fairfax, Va.

Jack Crowley, Vice President of the Association of American Universities, will head an office MIT is establishing in Washington. **Howard Gobstein**, who represents the University of Michigan, will succeed him at AAU.

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In Print: Federal Research Policy, Brain Decade, Etc.

The publications listed are obtainable as indicated—not from SGR.

Federally Funded Research: Decisions for a Decade (Summary edition, GPO Stock No. 052-003-01232-4; 43 pp., \$2.50. Full report, due later in May, GPO Stock No. 052-003-01241-3; \$12.50), by the Congressional Office of Technology Assessment (OTA), the most thorough and critical look at federal support of science in many years. Key findings: 1. the system lacks both reliable priority-setting mechanisms and an overview of the federal research portfolio; 2. it's weak in identifying the costs of conducting research; 3. data on manpower and other aspects of R&D are uncertain, and forecasts of a PhD shortage "are poor grounds on which to base public policy." The report, OTA's biggest effort in science policy, was prepared under an advisory panel chaired by Bernadine Healy, who became Director of NIH last month. Daryl E. Chubin, of OTA, served as Project Director.

Also from OTA: **Identifying and Controlling Immunotoxic Substances** (GPO Stock No. 052-003-01231-6; 93 pp., \$4.50), a background paper, prepared for the Senate Committee on Environment and Public Works, concludes that "the science of immunotoxicology is sufficiently advanced for regulators to begin to consider use of its results in the decisionmaking process," but, OTA adds, more research and interagency orchestration are needed.

Another from OTA: **US Dairy Industry at a Crossroad: Biotechnology and Policy Choices** (GPO Stock No. 052-003-01238-3; 118 pp., \$5.50), an influential go-ahead in the long-running controversy over bovine somatotropin, the genetically engineered milk-boosting hormone that has been bogged down in the federal regulatory process. OTA says it's safe for humans and cows, but nods a bit to concerns about adverse economic effects on small farmers.

Order OTA publications from: USGPO, Superintendent of Documents, Washington, DC 20402-9325; tel. 202/783-3238. Add 25 percent for international orders.

Maximizing Human Potential: Decade of the Brain 1990-2000 (100 pp., no charge), a product of high-power biomedical lobbying, this slick government publication, with a foreword by Presidential Science Adviser D. Allan Bromley, describes the ambitious program that the neurosciences have mobilized to emulate the early fiscal success of the War on Cancer. With the late Rep. Silvio O. Conte (R-Mass.), venerated as the founding saint, the Decade of the Brain holds endorsements from the President and the Congress. Orchestration is handled by a subcommittee of the Federal Coordinating Council for Science, Engineering, and Technology, which works under the White House Science Office. Listed in the publication are contacts at some two dozen federal agencies (from Agriculture, for nutrition, to the State Department, for foreign collaboration) in one way

or another associated with the program. But at the center is the NIH National Institute of Neurological Disorders and Stroke (NINDS), whose sister institutes look warily upon this high-pressure, high-visibility operation of unknown budget potential. Curiously omitted from the otherwise detailed publication is any reference to costs. Closely involved with the Brain program is a private, non-profit lobbying organization, the National Foundation for Brain Research, which ran a \$100,000, 12-page advertising insert, titled "Decade of the Brain," in the *Washington Post* last year. Among the major cost-sharers for the ad, the Italian-based Fidia Pharmaceutical Corp., sponsor of the Fidia Research Foundation, which bankrolled the Fidia-Georgetown Institute for the Neurosciences at the Medical Center of Georgetown University in 1985. Credited for "assistance in preparation" of the ad insert were Murray Goldstein, Director of NINDS, and Lewis Judd, then Director of the National Institute on Mental Health. In science's quest for big federal bucks, this is an Olympic-class operation.

Order from: National Institute of Neurological Disorders and Stroke, Building 31, Room 8A-06, 9000 Rockville Pike, Bethesda, Md. 20892; attn. Pam Jones; tel. 301/496-5924.

Toward A US Technology Strategy: Enhancing Manufacturing Competitiveness (24 pp., no charge), by Erich Bloch, former Director the National Science Foundation, the first "discussion paper" in a series planned by the Manufacturing Forum, a joint creation of the National Academy of Sciences and the National Academy of Engineering. As on previous occasions, Bloch calls for closer ties between science, technology, product development, and manufacturing. He also urges federal support for developing "generic technologies," a shift from defense toward civilian research, and recognition that the government's own laboratories "are an underutilized resource in our quest for economic growth."

Order from: National Academy of Sciences, Manufacturing Forum, NAS 301A, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-1579.

Rising Health Care Costs: Causes, Implications, and Strategies (90 pp., no charge), by the Congressional Budget Office (CBO), an examination of the cost-raising factors in American health care, from lack of spending discipline to an aging population, along with a review of efforts at cost controls. Included are some international comparisons and basic data on sources of payments for health care in the US and various trends. The CBO report says effective cost controls "would probably mean less spending on [health-related] research and development," but doesn't develop that provocative point. The publication is part two of CBO's response to a request from the Senate Finance Committee

(Continued on Page 7)

